

METHODS AND APPARATUS FOR PRODUCING TRANSMISSION  
FAILURE PROTECTED, BRIDGED, AND DISPERSION RESISTANT SIGNALS

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Abstract

Apparatus for creating a communication signal, comprising a modulator adapted to:  
modulate a first and a second beam of continuous wave electromagnetic radiation with a source  
signal, assemble modulated portions of the first and second beams into a first electromagnetic  
10 radiation signal of interposed regular and alternate data bit sequences comprising asserted non  
return to zero coded data bits, each of the data bit sequences being interposed by unasserted data  
bits, in which mutually adjacent asserted data bits are conjoined, and assemble modulated  
portions of the first and second beams into a second electromagnetic radiation signal of  
interposed regular and alternate data bar bit sequences comprising asserted non return to zero  
15 coded data bar bits representing the unasserted data bits, each of the data bar bit sequences being  
interposed by unasserted data bar bits representing the asserted data bits, in which mutually  
adjacent asserted data bar bits are conjoined. Such apparatus for creating a communication  
signal, further comprising means for modulating the first electromagnetic radiation signal with  
the source signal to shift the phase of the alternate data bit sequences; and means for modulating  
20 the second electromagnetic radiation signal with the source signal to shift the phase of the  
alternate data bar bit sequences. Methods for creating communication signals.